Amendments to the Specification

Specification

Please replace paragraph [31] with the following amended paragraph:

Inside the open color manager, 54, the host gamut surface data set 66 and the printer gamut surface data set 78 are passed 84 to a gamut mapping and optimization step 86. Each gamut surface data set 66, 78 defines the outer boundaries of the host 56 and printer 58 color capabilities, respectively. The gamut surface data sets 66, 78 are provided in profile connection space (PCS) coordinates. A typical PCS will have three dimensions, and a device gamut surface map defines a three dimensional color space body. A two-dimensional slice of such a three-dimensional gamut map is shown in Fig. 4. Host gamut surface curve 88 is plotted with printer gamut surface curve 90. The area to the left of each gamut surface curve 88, 90 defines the actual color gamut of each device. In this example, the host color gamut 92 is larger than the printer color gamut 94. Thus in this example, the printer 58 will not be able to accurately reproduce colors to the right of the printer gamut surface curve 90. To compensate, the open color manager 54 performs gamut mapping and optimization based on the gamut volume/data defined by surfaces 88, 90. In the example of Fig. 4, the host color gamut 92 must be compressed and the hue rotation must be applied so that the full printer gamut 94 will be used and proper hue adjustment is performed for saturation mapping. Such gamut mapping techniques are well known to those skilled in the art. Arrows 96 illustrate an example of how the host gamut 92 might be mapped to the printer gamut 94 on the surface of both curves. A similar mapping must be performed between the entire gamut volumes 92, 94.

Please replace paragraph [34] with the following amended paragraph:

The host and printer look-up tables for color space-to PCS+K conversion 68, 80 also contain information regarding input K and output K' in terms of the

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PCS. Provided both the host 56 and the printer 58 in any given host/printer combination of the open color management system 28 are capable of managing K data separately from color data, an additional function will be calculated by the open color manager 54. This additional function is called the K-mapping function 106, and it quantifies the relationship between input K and output K'. By comparing input K lightness information with output K' lightness information in terms of the PCS, the K-mapping function 106 can also be computed at a job-time by the open color manager 54. Fig. 5 illustrates three examples of K-mapping functions. In some cases, the input K is boosted 108 to a higher output K' to give the same lightness. In other cases, the input K is reduced 110 to a lower output K' to give the same lightness. In rare cases, the input K to output K relationship can be one-to-one 112. In any case, the end result is the calculation of K-mapping function [[108]]106 which quantifies the relationship between input K and output K'.